

Abstract of the Disclosure

Provided is a method for determining a zeta potential generated between a solid wall and a solution. The method includes (a) injecting an electrolyte solution into a first inlet of a T channel, which is provided with first and second inlet electrodes and a grounded outlet electrode, and a mixed solution of the electrolyte solution and a fluorescent dye into a second channel of the T channel and maintaining a steady-state of the two solutions; (b) applying a direct current electric field from the first and second electrodes to the outlet electrode to form an interface between the electrolyte solution and the mixed solution; (c) applying an alternating current electric field from one of the two inlet electrodes to the outlet electrode to oscillate the interface; and (d) measuring an amplitude of oscillation of the interface and determining the zeta potential from the standard relationship between the zeta potential and the amplitude.